



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/615,829

07/10/2003

Franck Le

1135.41904X00

8920

20457

7590

10/10/2006

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

SON, LINH L D

ART UNIT

PAPER NUMBER

2135

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,829

Applicant(s)

LE ET AL.

Examiner

Linh LD Son

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Chanby B. Pm
AU2135

DETAILED ACTION

1. **This Office Action is responding to the filing of the Application received on 07/10/03.**
2. **Claims 1-26 are pending.**

Claim Rejections - 35 USC § 112

3. **The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claim 13 recites the limitation "said response and said challenge" in the claim language. There is insufficient antecedent basis for this limitation in the claim.**

Claim Rejections - 35 USC § 101

5. **35 U.S.C. 101 reads as follows:**

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17 and 24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Art Unit: 2135

Functional Descriptive Material: "Data Structures" Representing Descriptive Material Per Se or Computer Programs Representing Computer Listings Per Se
Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

Claim Rejections - 35 USC § 102

- 6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- 7. Claims 1-2, 4-5, 11, 17, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hopprich et al, hereinafter "Hopprich".**

- 8. As per claim 1 and 17:**

Hopprich discloses "A method for proving ownership of an address of a first node in an IP based communication system,

wherein said first node has a private key and public key pair" in (Col 21 lines 60-65),

"generating an address using the public key; and

Art Unit: 2135

providing said address to a second node,
wherein said second node sends an address verification request to said first node" in (Col 24 lines 10-20), and
"wherein said first node proving to said second node that it owns said address by providing an address verification answer generated using said private key corresponding to said public key" in (Col 21 lines 25-35, and Col 24 lines 20-30).

9. As per claim 2:

Hopprich discloses "A method according to claim 1, wherein the step of generating an address comprises the steps of:

computing a function using the public key to generate an address generation value; and

generating an address, preferably a dynamic address, using said address generation value" in (Col 23 lines 10-20, and Col 24 lines 5-20) [DHCP provides dynamic address. The double encryption generates an address using the receiving node public key].

10. As per claim 4:

Hopprich discloses "A method of claim 1, wherein said first node generates a pair of private/public keys according to an identification protocol" in (Col 21 lines 60-65).

11. As per claims 5 and 20:

Hopprich discloses "A method of claims 4 and 19, wherein the identification protocol is a zero knowledge identification protocol" in (Col 23 lines 60-63) [Zero

Art Unit: 2135

knowledge identification protocol allow both party to authenticate based on its private/public key].

12. As per claim 11:

Hopprich discloses "The method of claim 8, wherein said first node computes a response by applying said private key to said challenge" in (Col 24 lines 10-20).

13. Claims 14-16, and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Nikander, US Publication No. 20020133607A1.

14. As per claims 14 and 24:

Nikander discloses "A system for proving ownership of an IP address of a node in an IP based communication system, wherein the node comprises generating means for generating the IP address based on passwords [Hash of the Random numbers (H_n, \dots, H_i) in Para 78-79] used only once, another node receiving the IP address comprising verifying means for verifying that the node owns the IP address by checking the password" in (Para 109-129)

15. As per claim 15:

Nikander discloses "A method of claim 14, wherein the node generates the IP address using an advertised network prefix and the password as the suffix" in (Para 175-177) [TA consisting IP prefix, and H_0 is the password].

Art Unit: 2135

16. As per claim 25:

Nikander discloses "A method of claim 1, wherein said first node uses the address generation value as a suffix for generating said dynamic address" in (Para 0173-177).

17. As per claims 16 and 26:

Nikander discloses "A method of claim 14 and 24, wherein the node includes a number into the generated IP address, the number being incremented or decremented each time the IP address is transmitted to the another node, the another node additionally checking the number for verifying ownership of the IP address" in (Para 0104-0105) [TTLA is time to live value in RFC2373]

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 3, 6-10, 12-13, 18-19, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hopprich in view of Nikander, US Publication No. 20020133607A1.

20. As per claims 3 and 21:

Hopprich does not teach "A method of claim 1, wherein the address is an IPv6 (IP version 6) address"

Nevertheless, Nikander does disclose the "Address Mechanisms in Internet Protocol" invention, which includes a method of authenticating an IP address in IPV6 environment in (Para 2). Nikander further teaches of utilizing different security algorithms to derive an IP address for authentication with another host (Para 0011). Nikander also utilizes PKI and Certificate to authenticate (Para 0014).

Therefore, it would have been obvious at the time of the invention was made for one having ordinary skill in the art to modify Nikander's invention to incorporate Nikander's teaching of implementing a secure public key system to authenticate the IP address of a host to ensure a high fidelity of ownership of the IP address.

21. As per claims 6 and 22:

Nikander discloses "A method of claim 1, wherein the address generation value is computed applying a hash function to the public key" in (Para 0065).

22. As per claims 7, and 23:

Nikander discloses "A method of claim 1, wherein said first node uses the address generation value as a suffix for generating said dynamic address" in (Para 0173-177).

23. As per claim 8:

Nikander discloses "A method of claim 1, wherein said address verification request sent by said second node includes a cookie and a challenge (Para 186)" in (Para 181-187).

24. As per claim 9:

Nikander discloses "The method of claim 8, wherein said cookie is computed by said second node using a security algorithm and a security key of said second node" in (Para 0186-187).

25. As per claim 10:

Nikander discloses "The method of claim 8, wherein said challenge is a random number" in (Para 187)

26. As per claim 12:

Nikander discloses "The method of claim 11, wherein said first node sends an address verification response including said cookie, said response and said public key" in (Para 183, 179).

27. As per claim 13:

Nikander discloses "The method of claim 1, wherein said second node verifies that said first node owns said address by computing a hash of said public key and comparing the resulting value with said address generating value in a suffix of said dynamic address, and by applying said public key to said response and comparing the result with said challenge" in (Para 188-201).

28. As per claim 18:

Nikander discloses "A system of claim 17, wherein said address generating means comprises computing means for computing an address generation value using the public key, and means for generating an address, preferably a dynamic address, using said address generation value" in (Para 065).

29. As per claim 19.

A system of claim 17, wherein said generation means is adapted for generating said private key and said public key according to an identification protocol" in (Para 069).


Art Unit: 2135

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh LD Son whose telephone number is 571-272-3856. The examiner can normally be reached on 9-6 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linh LD Son
Examiner
Art Unit 2135


AU2135